What is claimed is:

1. A method for depositing a low dielectric constant film, comprising:

delivering a gas mixture comprising:

a cyclic organosiloxane; and

two or more oxidizing gases comprising N_2O and O_2 to a substrate in a chamber, wherein a ratio of a flow rate of the N_2O to a total flow rate of the two or more oxidizing gases into the chamber is between about 0.1 and about 0.5; and

applying RF power to the gas mixture at conditions sufficient to deposit a low dielectric constant film on a surface of the substrate.

2. The method of claim 1, wherein the two or more oxidizing gases consist of N_2O and O_2.

3. The method of claim 1, wherein the cyclic organosiloxane is octamethylcyclotetrasiloxane (OMCTS).

4. The method of claim 1, wherein cyclic organosiloxane is selected from the group consisting of 1,3,5-trimethylcyclotrisiloxane, hexamethylcyclotrisiloxane, 1,3,5,7-tetramethylcyclotetrasiloxane (TMCTS), octamethylcyclotetrasiloxane (OMCTS), 1,3,5,7,9-pentamethylcyclopentasiloxane, and decamethylcyclopentasiloxane.

5. The method of claim 4, wherein the gas mixture further comprises an inert gas selected from the group consisting of helium, argon, and combinations thereof.

6. The method of claim 1, further comprising post-treating the low dielectric constant film with an electron beam.

7. A method for depositing a low dielectric constant film, comprising:

delivering a gas mixture comprising:

a cyclic organosiloxane; and

an oxidizing gas comprising N_2O to a substrate in a chamber, wherein the N_2O is delivered into the chamber at a flow rate between about 0.71 sccm/cm^2 and about 1.42 sccm/cm^2; and

applying RF power to the gas mixture at conditions sufficient to deposit a low dielectric constant film on a surface of the substrate.

8. The method of claim 7, wherein the oxidizing gas consists of N_2O.

9. The method of claim 7, wherein the gas mixture further comprises a linear hydrocarbon.

10. The method of claim 9, wherein the linear hydrocarbon is ethylene.

11. The method of claim 7, wherein the cyclic organosiloxane is octamethylcyclotetrasiloxane (OMCTS).

12. The method of claim 7, wherein the cyclic organosiloxane is selected from the group consisting of 1,3,5-trimethylcyclotrisiloxane, hexamethylcyclotrisiloxane, 1,3,5,7-tetramethylcyclotetrasiloxane (TMCTS), octamethylcyclotetrasiloxane (OMCTS), 1,3,5,7,9-pentamethylcyclopentasiloxane, and decamethylcyclopentasiloxane.

13. The method of claim 7, wherein the gas mixture further comprises an inert gas selected from the group consisting of helium, argon, and combinations thereof.

14. The method of claim 7, further comprising post-treating the low dielectric constant film with an electron beam.

15. A method for depositing a low dielectric constant film, comprising:

delivering a gas mixture comprising:

a cyclic organosiloxane;

a linear hydrocarbon having at least one unsaturated carbon-carbon bond; and

two or more oxidizing gases comprising N_2O and O_2 to a substrate in a chamber; and

applying RF power to the gas mixture at conditions sufficient to deposit a low dielectric constant film on a surface of the substrate.

16. The method of claim 15, wherein the two or more oxidizing gases consist of N_2O and O_2.

17. The method of claim 15, wherein the cyclic organosiloxane is octamethylcyclotetrasiloxane (OMCTS).

18. The method of claim 15, wherein the cyclic organosiloxane is selected from the group consisting of 1,3,5-trimethylcyclotrisiloxane, hexamethylcyclotrisiloxane, 1,3,5,7-tetramethylcyclotetrasiloxane (TMCTS), octamethylcyclotetrasiloxane (OMCTS), 1,3,5,7,9-pentamethylcyclopentasiloxane, and decamethylcyclopentasiloxane.

19. The method of claim 15, wherein the linear hydrocarbon is ethylene.

20. The method of claim 15, wherein the gas mixture further comprises an inert gas selected from the group consisting of helium, argon, and combinations thereof.